

Flexible Connectors

Flex connectors are used to absorb thermal and seismic ground movement, to absorb hydraulic shock and vibration dampening, and to ease installation. All flexible connectors must be Underwriters Laboratory (UL) listed for its intended use and be compatible with the product stored.

Maryland regulations require the use of flexible connectors on product-piping. A flexible connector must be used at the tank top and at the end of the product-piping run. This includes steel and fiberglass piping. MDE further recommends the use of flexible connectors on flexible piping systems, however they are not mandatory. Flexible connectors are not allowed on any other part of the product piping (COMAR 26.10.03.06E).

If the connector is buried, it must be protected from corrosion. This can be accomplished by using a boot supplied by the manufacturer, a cathodic protection system, or by wrapping or coating the connector. We prefer the boot-type system. We recommend, where possible, that flexible connectors be placed in a sump for visual inspection purposes. MDE further requires the use of a small amount of "Loctite" type product on the threads of the fitting. Loctite should never be placed on the flex connector's gasket, only on the threads. We recommend the use of "Loctite" No. 567 or 565.

Other Allowable Uses:

1. On Stage II piping in place of a shear section. The connector must be installed in a vertical position with no bends.
2. Vent piping – must be in a containment sump and available for visual inspection to ensure proper slope and lack of traps. Traps have caused the pipe to fill with product/water, causing breathing problems for the tank and releases during delivery

Never use Flex Connectors if:

- Exposed above grade (unless UL fire rated)
- In the middle of a piping run
- To make a directional change greater than 90 degrees

Upgrades:

When a piping system is upgraded, flexible connectors encountered during the upgrade must be brought up to current codes. That means a flexible connector cannot:

- A. Remain in the middle of a piping run; and
- B. If in a proper location, the connector must be protected from corrosion.

When an existing flex connector is exposed for purposes other than a piping upgrade, the connector must be protected from corrosion by booting, coating, or wrapping.

Please refer questions regarding this issue to the Oil Control Program at 410-537-3443.